

THAT WHICH IS CLAIMED IS:

1. An image sensing structure comprising a photodiode having a first well of a first conductivity type suitable to act as a collection node, and which is formed in a layer of a second conductivity type, wherein at least an upper portion of the first well is bound on at least part of its horizontally circumscribed perimeter by an insulating trench.

2. The image sensing structure of claim 1, wherein at least an upper portion of the first well is bound on the entirety of its horizontally circumscribed perimeter by an insulating trench.

3. The image sensing structure of claim 1 or claim 2, wherein the trench is a shallow trench isolation (STI).

4. The image sensing structure of any preceding claim, wherein the first well comprises an N-well.

5. The image sensing structure of any preceding claim, wherein the layer of the second conductivity type comprises a P-well.

6. The image sensing structure of any of claims 1-4, wherein the layer comprises a P-epitaxial layer.

7. The image sensing structure of any of claims 1-4, wherein the trench covers a large portion of the upper surface of the photodiode.

8. The image sensing structure of claim 6 or claim 7, wherein an n-p junction is formed at the interface between the trench and the first well.

9. The image sensing structure of any preceding claim, wherein the photodiode has a width of less than ten micrometers.

10. The image sensing structure of any of claims 1-8, wherein the photodiode has a width equal to or less than ten micrometers.